



Tactical Combat Casualty Care

02 June 2014



Tactical Field Care



OBJECTIVES

- **STATE** the common causes of altered states of consciousness on the battlefield.
- **STATE** why a casualty with an altered state of consciousness should be disarmed.
- **DESCRIBE** airway control techniques and devices appropriate to the Tactical Field Care phase.



OBJECTIVES

- **DEMONSTRATE** the recommended procedure for surgical cricothyroidotomy.
- **LIST** the criteria for the diagnosis of tension pneumothorax on the battlefield.
- **DESCRIBE** the diagnosis and initial treatment of tension pneumothorax on the battlefield.



OBJECTIVES

- **DEMONSTRATE** the appropriate procedure for needle decompression of the chest.
- **DESCRIBE** the progressive strategy for controlling hemorrhage in tactical field care.
- **DEMONSTRATE** the correct application of a CoTCCC-recommended hemostatic dressing.
- **DEMONSTRATE** the correct application of a CoTCCC



OBJECTIVES

- **DEMONSTRATE** the appropriate procedure for initiating a rugged IV field setup.
- **STATE** the rationale for obtaining intraosseous access in combat casualties.
- **DEMONSTRATE** the appropriate procedure for initiating an intraosseous infusion.



OBJECTIVES

- **STATE** the tactically relevant indicators of shock in combat settings.
- **DESCRIBE** the pre-hospital fluid resuscitation strategy for hemorrhagic shock in combat casualties.
- **DESCRIBE** the management of penetrating eye injuries in TCCC.
- **DESCRIBE** how to prevent blood clotting problems from



OBJECTIVES

- **DESCRIBE** the appropriate use of pulse oximetry in pre-hospital combat casualty care
- **STATE** the pitfalls associated with interpretation of pulse oximeter readings.
- **LIST** the recommended agents for pain relief in tactical settings along with their indications, dosages, and routes of administration.
- **DESCRIBE** the rationale for early



OBJECTIVES

- **LIST** the factors involved in selecting antibiotic drugs for use on the battlefield.
- **DISCUSS** the management of burns in TFC.
- **EXPLAIN** why cardiopulmonary resuscitation is not generally used for cardiac arrest in battlefield trauma care.
- **DESCRIBE** the procedure for documenting TCCC care with the



OBJECTIVES

- **DESCRIBE** the three ISAF categories for evacuation priority
- **LIST** the nine items in a MEDEVAC request
- **DISCUSS** the rules of thumb for calling for Tactical Evacuation and the importance of careful calculation of the risk/benefit ratio prior to initiating the call
- **DESCRIBE** the appropriate procedures for providing trauma



Tactical Field Care

- Distinguished from Care Under Fire by:
 - A reduced level of hazard from hostile fire
 - More time available to provide care based on the tactical situation
- Medical gear is still limited to that carried by the medic or corpsman or unit members (may include gear in tactical vehicles)





Tactical Field Care

- May consist of rapid treatment of the most serious wounds with the expectation of a re-engagement with hostile forces at any moment, ***or***
- There may be ample time to render whatever care is possible in the field.
- Time to evacuation may vary from minutes to several hours or longer.



Battlefield Priorities in the Tactical Field Care Phase

- This section describes the recommended care to be provided in TFC.
- **This sequence of priorities shown assumes that any obvious life-threatening bleeding has been addressed in the Care Under Fire phase.**
- **If this is not the case - address the massive bleeding first.**
- After that - care is provided in the sequence shown. This sequence is compatible with the MARCH algorithm found in the USSOCOM Tactical Trauma Protocols.



MARCH

- **M**assive hemorrhage – control life-threatening bleeding.
- **A**irway – establish and maintain a patent airway.
- **R**espiration – decompress suspected tension pneumothorax, seal open chest wounds, and support ventilation/oxygenation as required.



MARCH

- Circulation – establish IV/IO access and administer fluids as required to treat shock.
- Head injury/Hypothermia – prevent/treat hypotension and hypoxia to prevent worsening of traumatic brain injury and prevent/treat hypothermia.



Tactical Field Care Guidelines

1. Casualties with an altered mental status should be disarmed immediately.



Disarm Individuals with Altered Mental Status

- Armed combatants with an altered mental status may use their weapons inappropriately.
- Secure long gun, pistols, knives, grenades, explosives.
- Possible causes of altered mental status are Traumatic Brain Injury (TBI), shock, hypoxia, and pain medications.
- Explain to casualty: “Let me hold your weapon for you while the doc checks you out.”



Tactical Field Care Guidelines

2. Airway Management

a. Unconscious casualty without airway obstruction:

- Chin lift or jaw thrust maneuver
- Nasopharyngeal airway
- Place casualty in recovery position



Tactical Field Care Guidelines

2. Airway Management

b. Casualty with airway obstruction or impending airway obstruction:

- Chin lift or jaw thrust maneuver
- Nasopharyngeal airway
- Allow casualty to assume any position that best protects the airway, to include sitting up.
- Place unconscious casualty in recovery position.
- If previous measures unsuccessful:
 - Surgical cricothyroidotomy (with lidocaine if conscious)



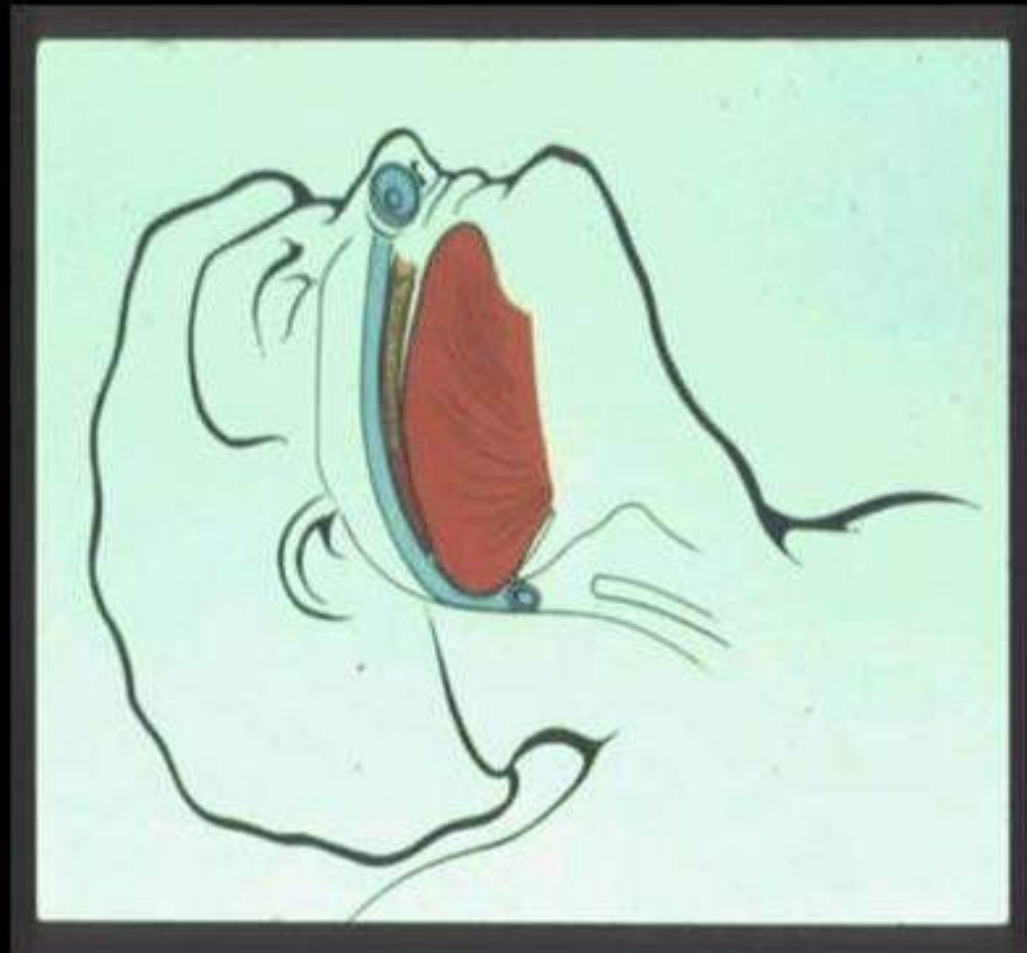
Nasopharyngeal Airway

- The “Nose Hose,” “Nasal Trumpet,” “NPA”
- Excellent success in GWOT
- Well tolerated by the conscious patient
- Lube before inserting
- Insert at 90 degree angle to the face
NOT along the axis of the external nose
- Tape it in
- Don’t use oropharyngeal airway (‘J’ Tube)
 - Will cause conscious casualties to gag



Nasopharyngeal Airway

- **Lubricate !**
- **Insert along floor of nasal cavity**
- **If resistance met, use back-and forth motion**
- **Don't Force – Use other nostril**
- **If patient gags, withdraw slightly**





Nasopharyngeal Airway



What's wrong with this NPA insertion?



Maxillofacial Trauma



- Casualties with severe facial injuries can often protect their own airway by sitting up and leaning forward.



Airway Support

Place unconscious casualties in the recovery position after the airway has been opened.

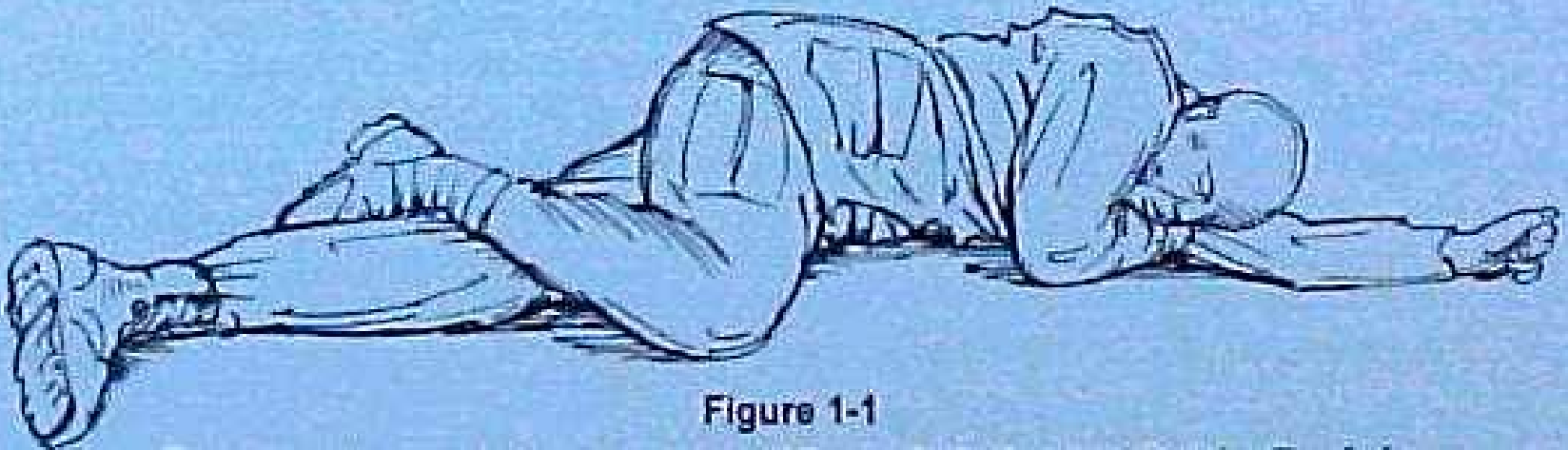


Figure 1-1

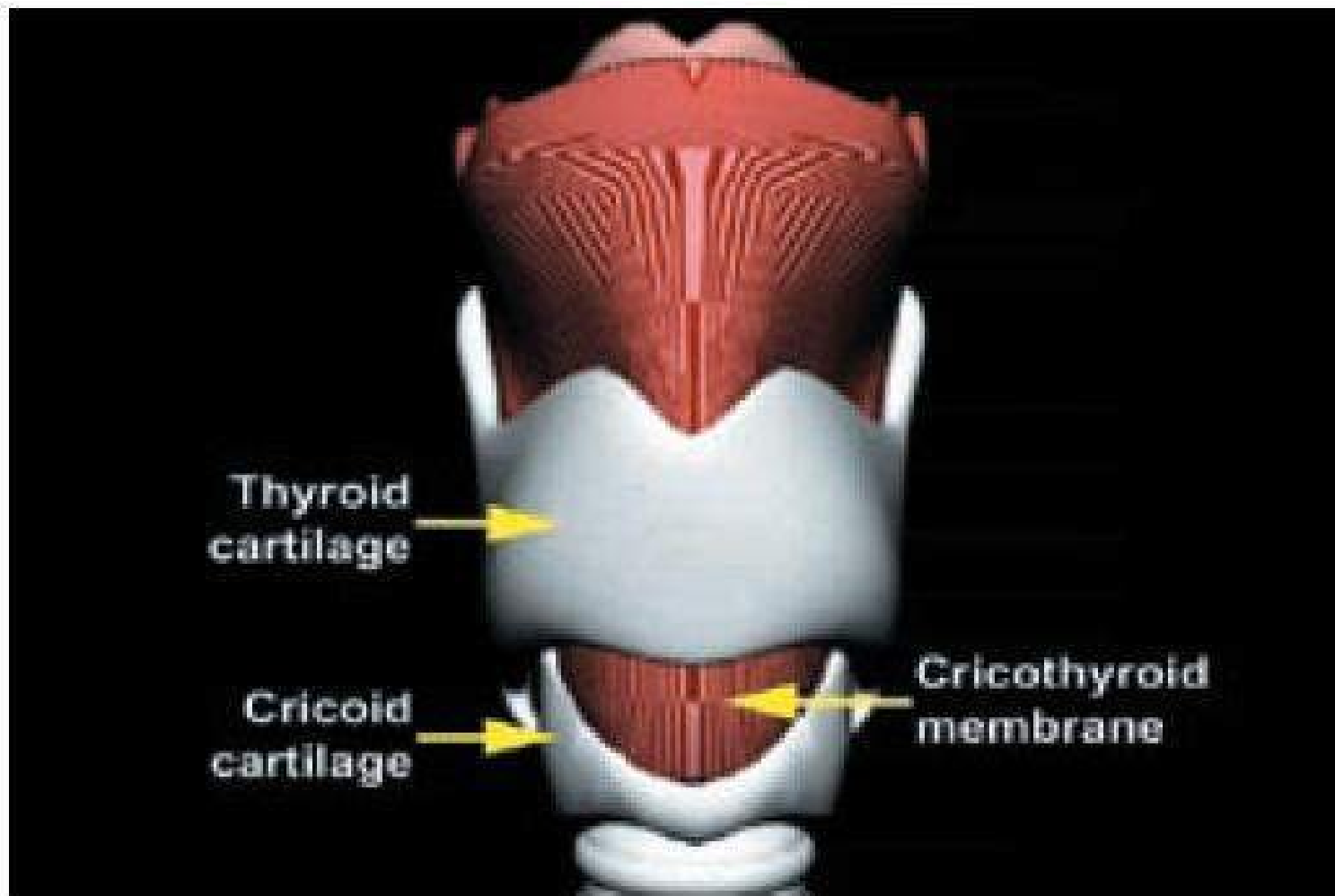


Surgical Airway (Cricothyroidotomy)

- The following series of slides and the video demonstrate a horizontal (transverse) incision technique for performing a surgical airway.
- A vertical (mid-sagittal) incision technique is preferred by many trauma specialists and is recommended in the Iraq/Afghanistan War Surgery textbook.
- Steps are the same except for the orientation of the incision.
- Use a 6.0 tube for the airway



Surgical Airway (Cricothyroidotomy)

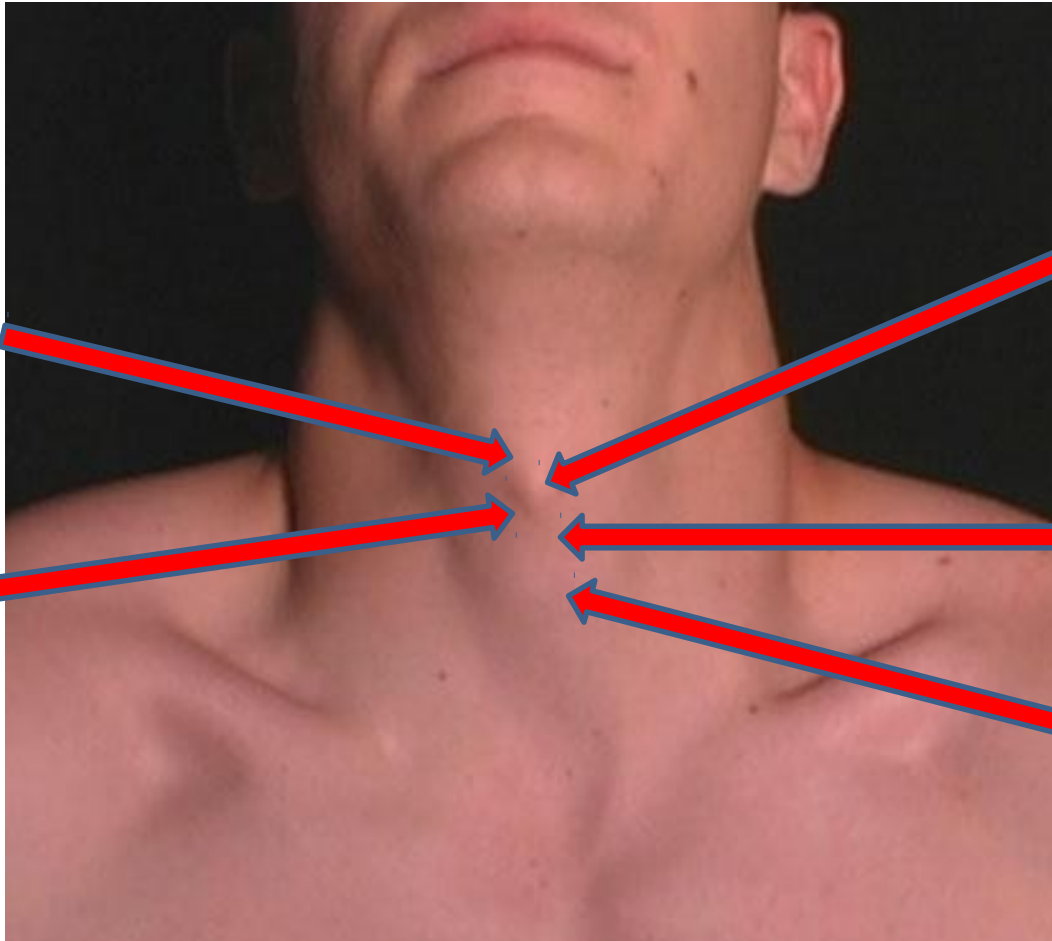




Surface Landmarks for Cricothyrotomy

**Top of
thyroid
cartilage**

**Bottom of
thyroid
cartilage**



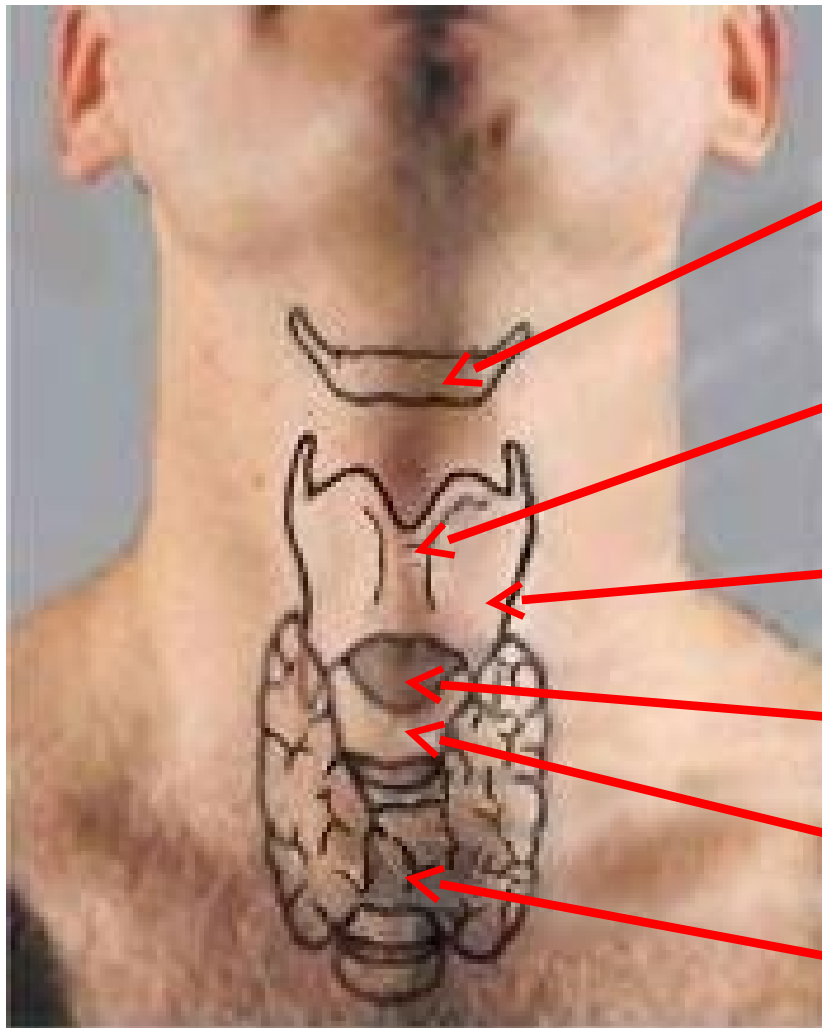
**Thyroid
prominence
- Adam's
apple
usually
visible only
in males**

**Cricothyroid
membrane**

**Cricoid
cartilage**



Beneath the Surface Landmarks



Hyoid Bone

Thyroid prominence (Adam's apple) - usually visible only in males

Thyroid cartilage

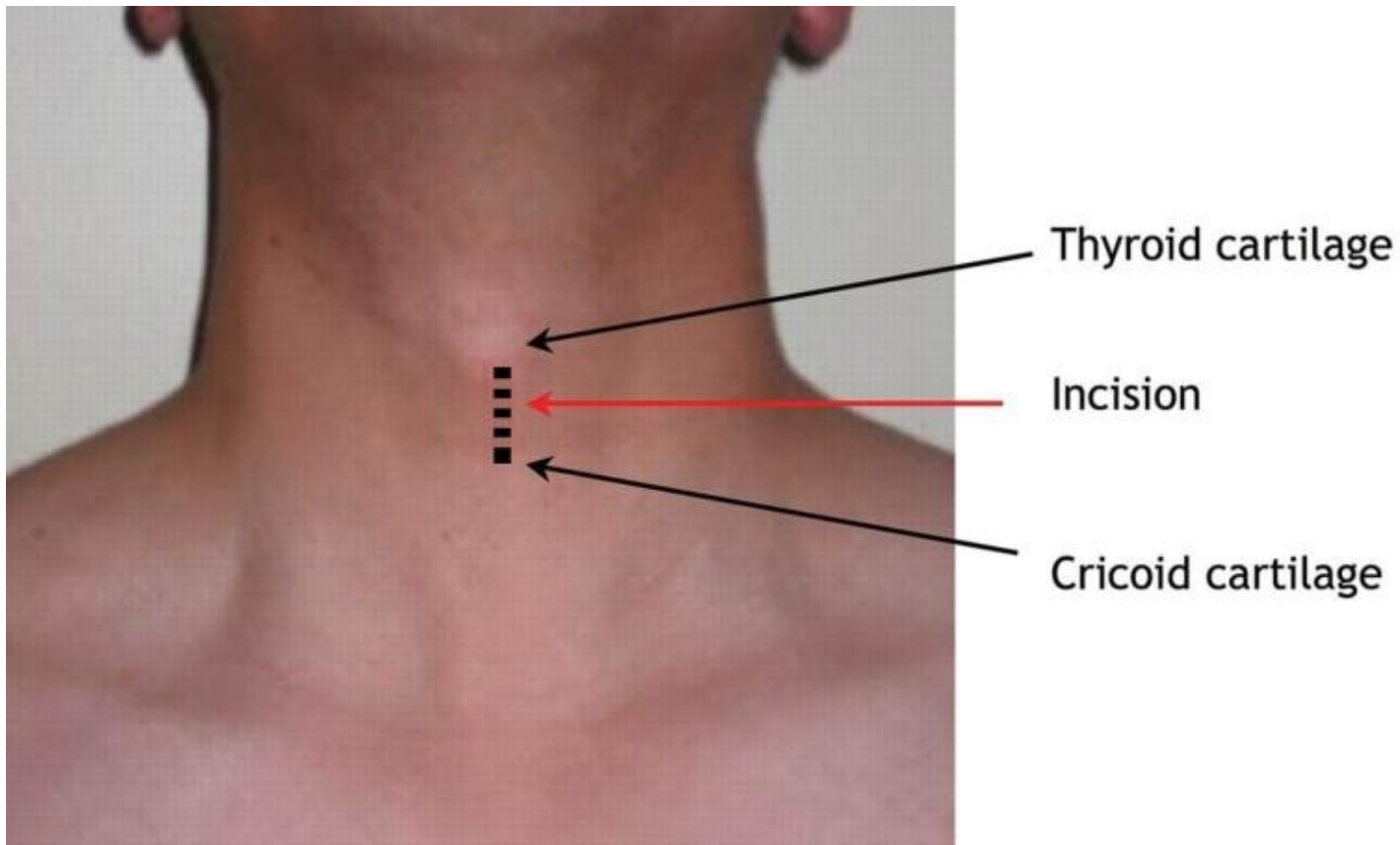
Cricothyroid membrane

Cricoid cartilage

Thyroid gland



Locating the Cric Incision Line



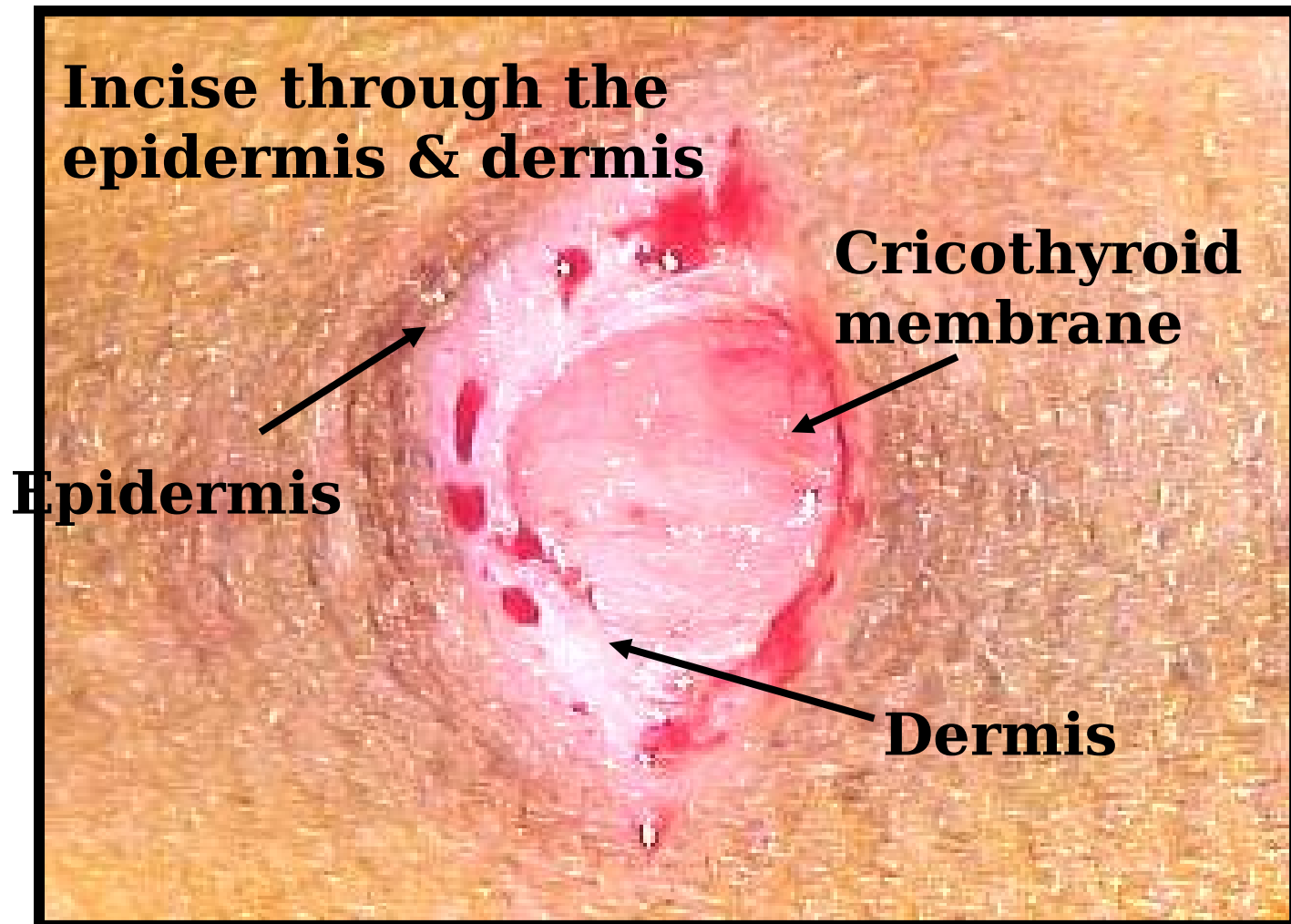


Surgical Incision over Cricothyroid Membrane



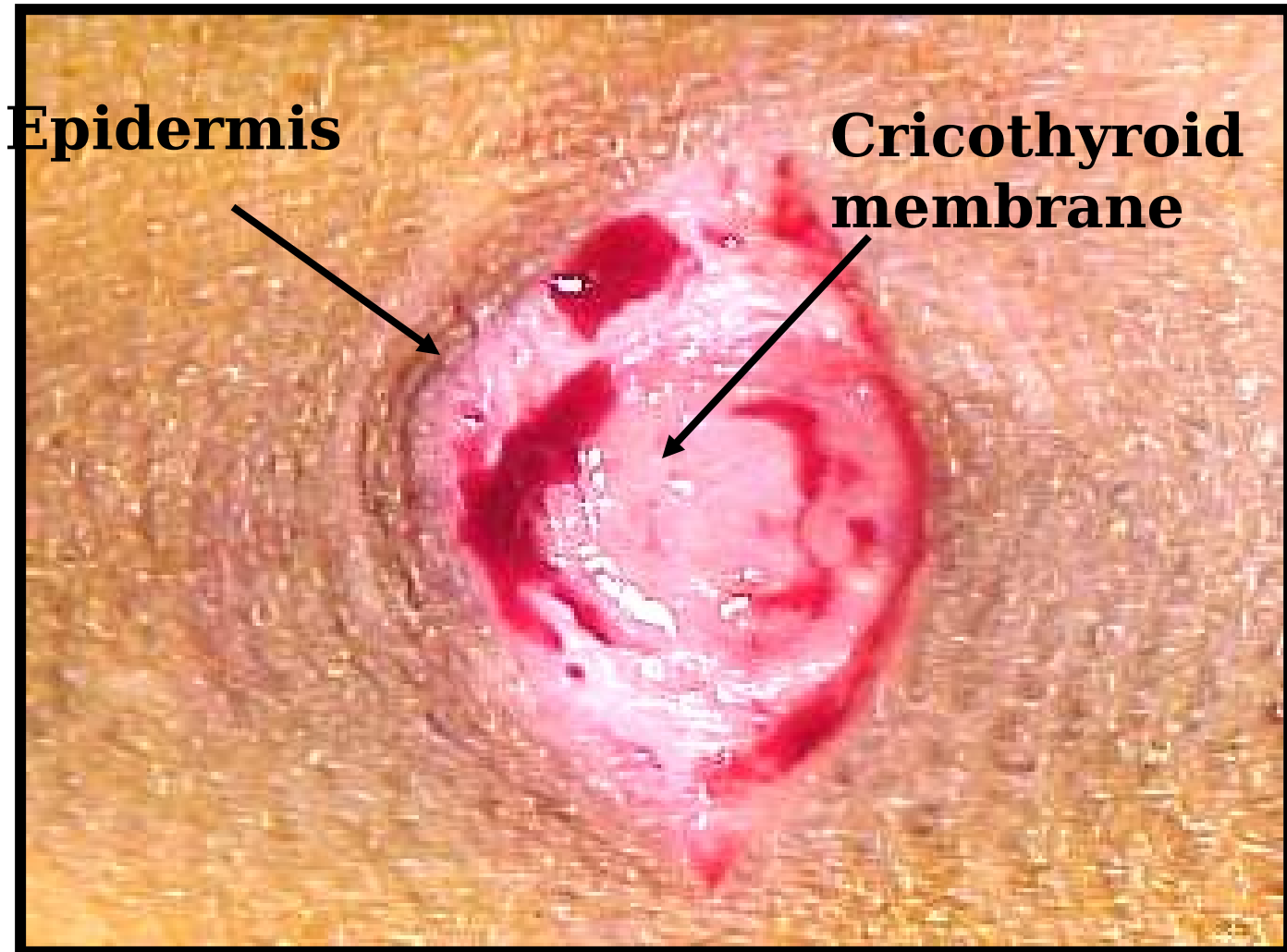


Surgical Airway





Surgical Airway





Surgical Airway



**Single stabbing
incision through
cricothyroid membrane**

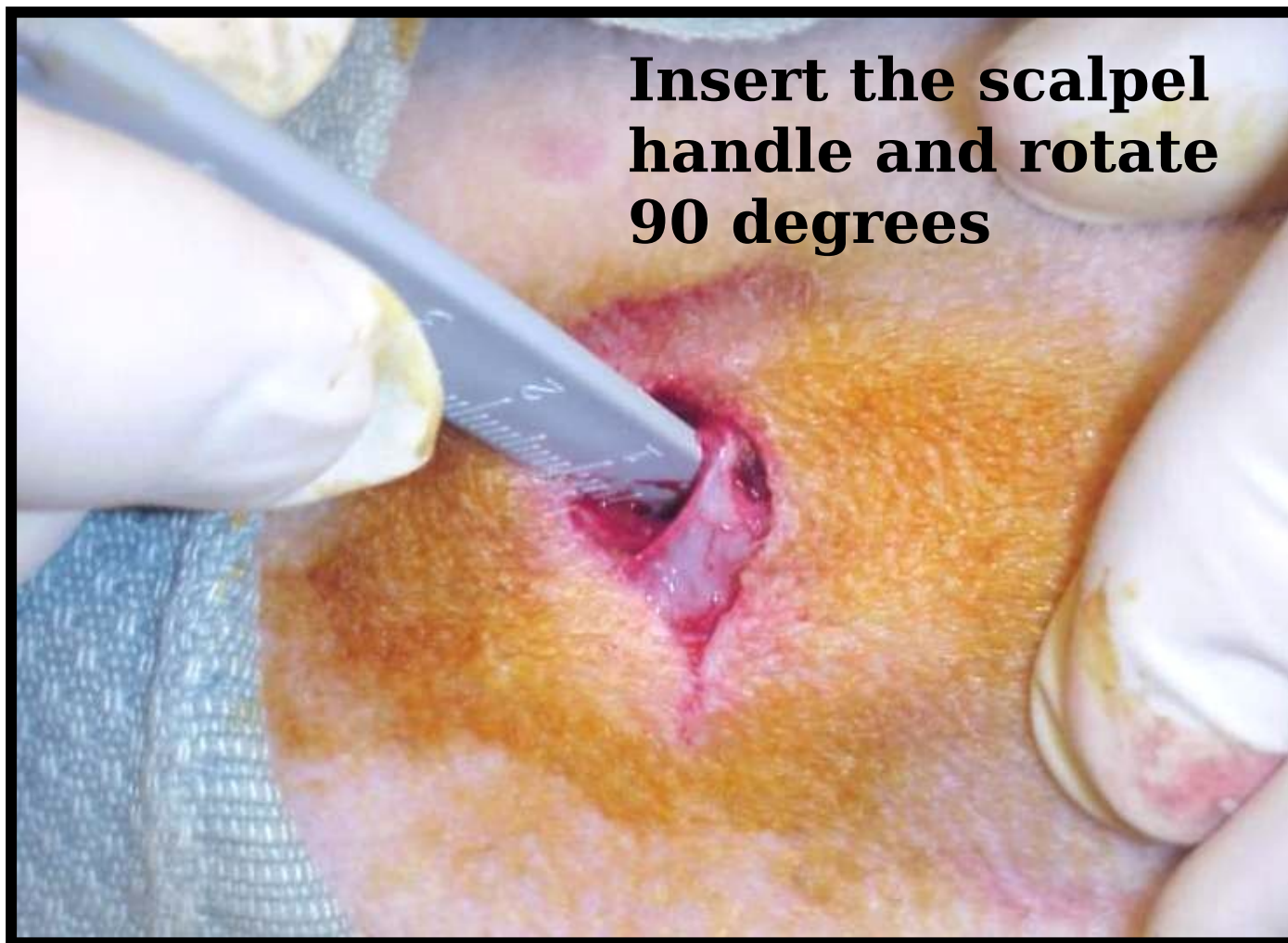


Surgical Airway





Surgical Airway





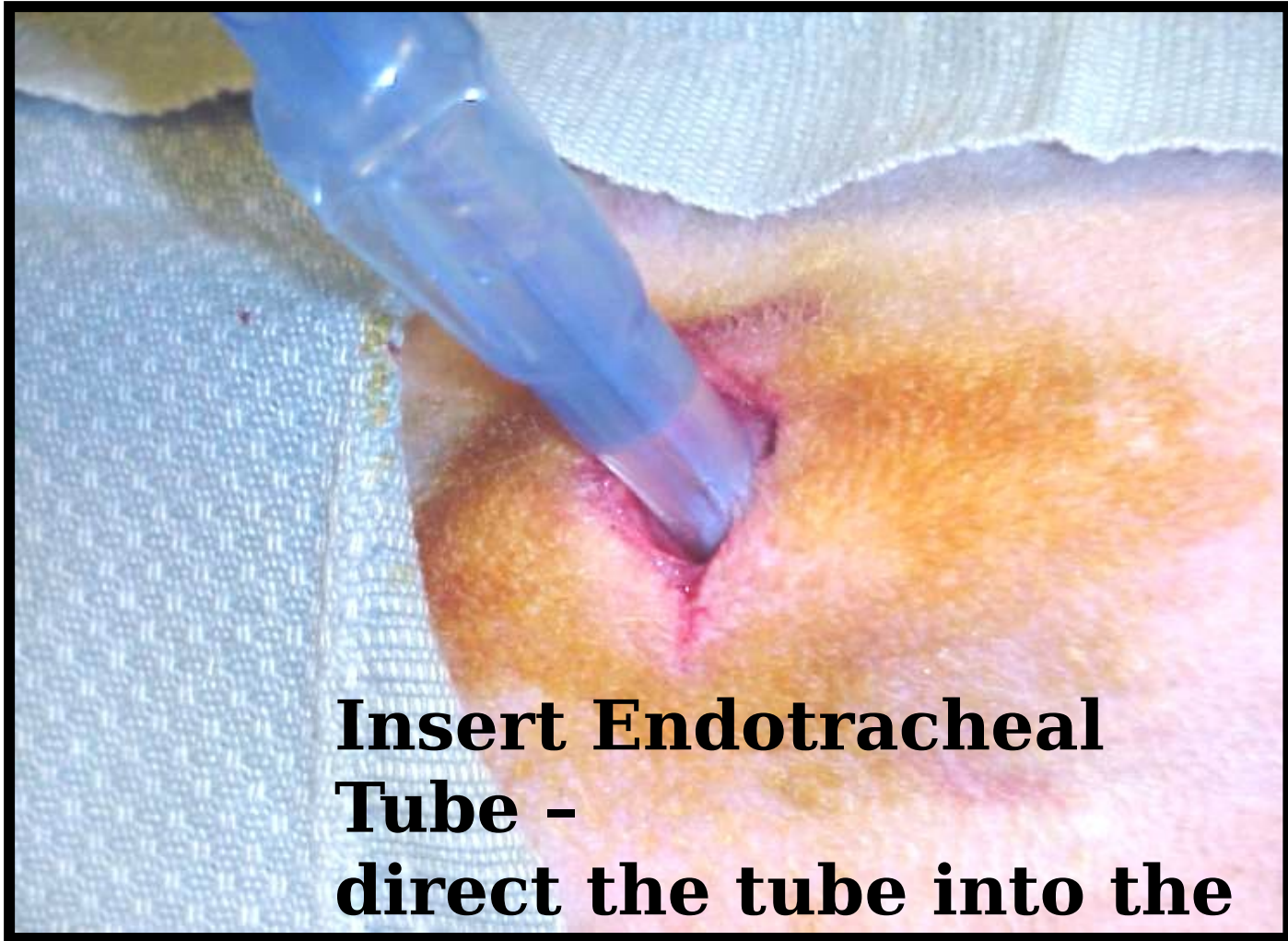
Surgical Airway

**Insert Mosquito
hemostat into
incision and dilate**





Insert ET Tube

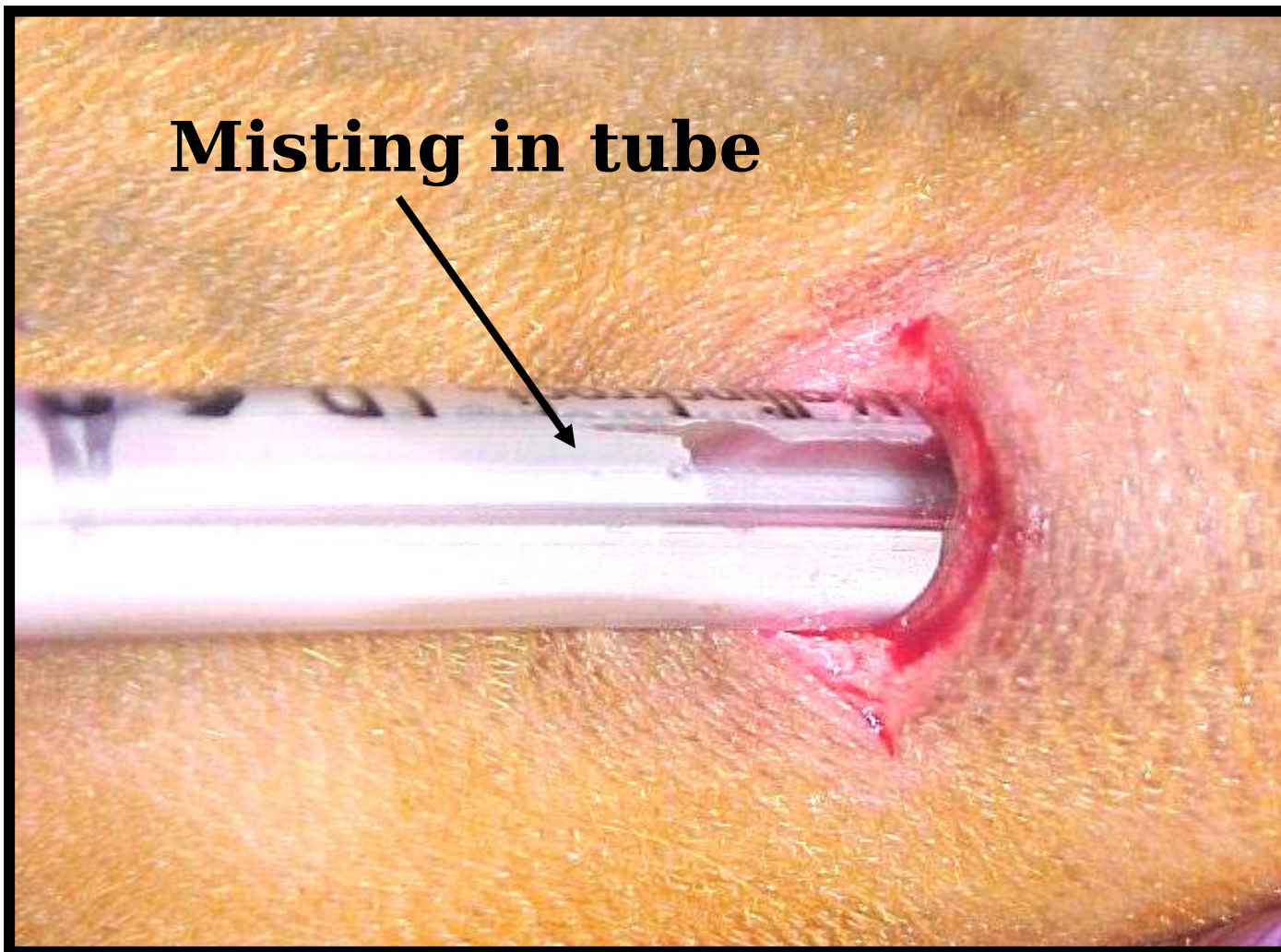


**Insert Endotracheal
Tube -
direct the tube into the
trachea and towards**



Check Placement

Misting in tube





Inflating the Cuff



Note: Corpsman/medic may wish to cut ET tube off just above the inflation tube so it won't be sticking out so far



Ventilate

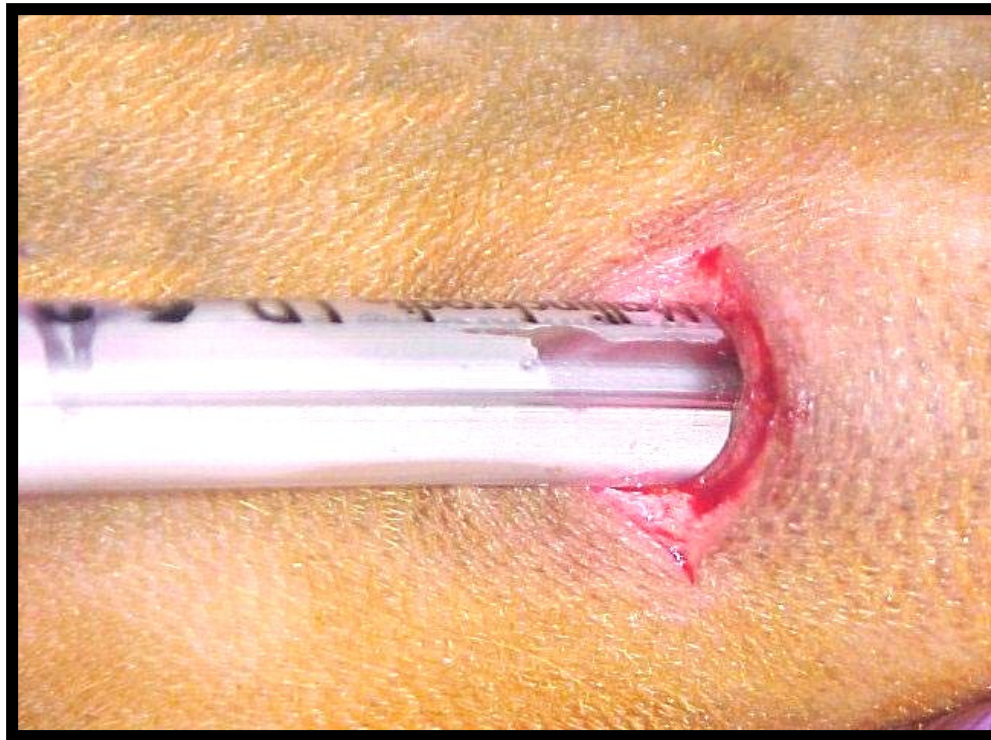
e

Attach Bag





Secure the Tube



At this point, the tube should be taped securely in place with surgical tape



Dress the Wound

Tape a gauze dressing over the surgical airway site.





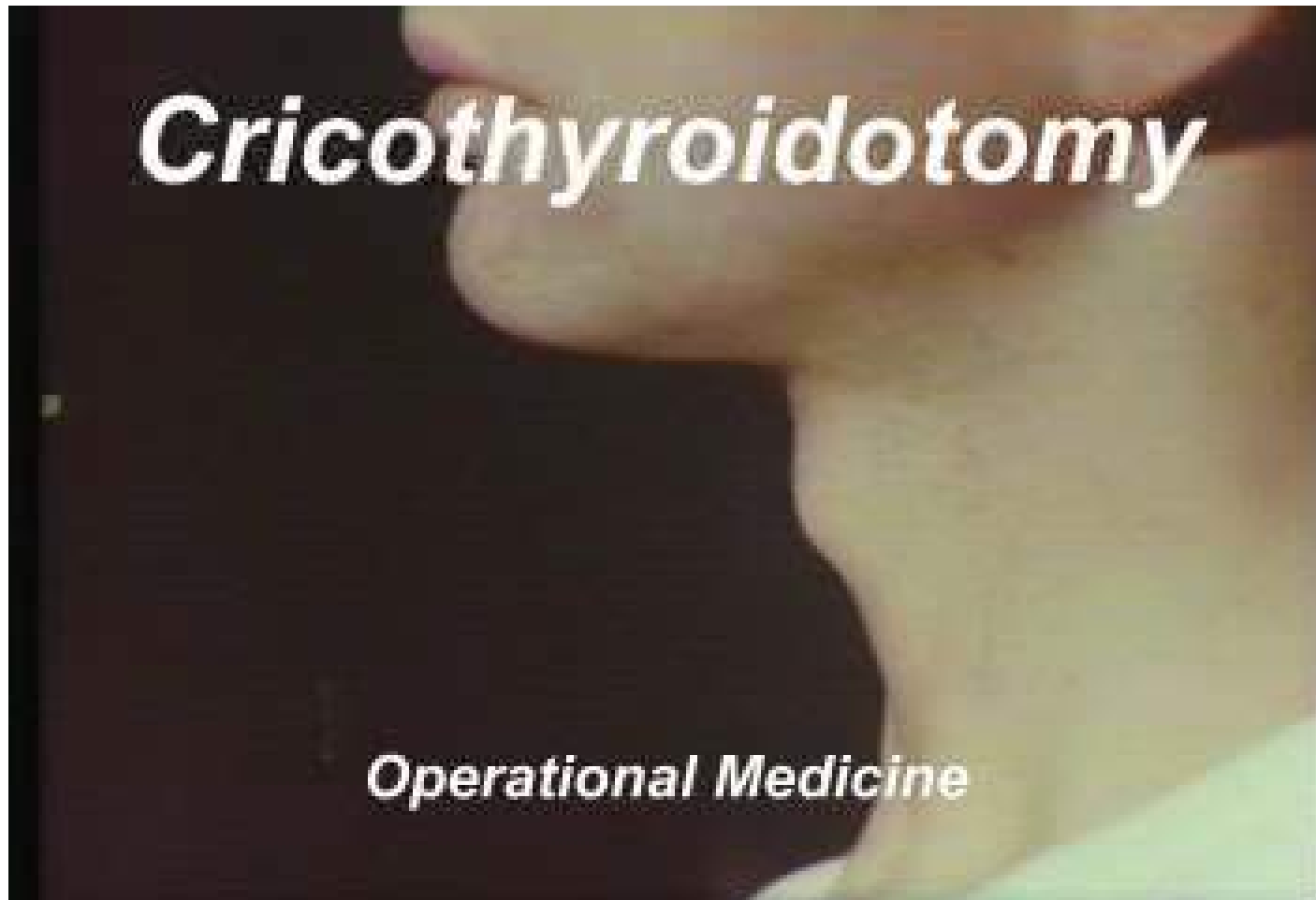
Repetition and Realism in Cric Training



To prepare for scenarios like this one, combat medics should perform cricothyrotomy at least five times during training on an anatomically realistic model.



Video: Surgical Airway





Video: An Actual Cricothyroidotomy



Courtesy Dr. Peter Rhee,
Univ. of Arizona

Airway Practical

Nasopharyngeal Airway

Surgical Airway





Tactical Field Care Guidelines

3. Breathing

- a. In a casualty with progressive respiratory distress and known or suspected torso trauma, consider a tension pneumothorax and decompress the chest on the side of the injury with a 14-gauge, 3.25-inch needle/catheter unit inserted in the second intercostal space at the midclavicular line. Ensure that the needle entry into the chest is not medial to the nipple line and is not directed towards the heart. An acceptable alternate site is the 4th or 5th intercostal



Tactical Field Care Guidelines

3. Breathing

- b. All open and/or sucking chest wounds should be treated by immediately applying a vented chest seal to cover the defect. If a vented chest seal is not available, use a non-vented chest seal. Monitor the casualty for the potential development of a subsequent tension pneumothorax. If the casualty develops increasing hypoxia, respiratory distress, or hypotension and a tension pneumothorax is suspected, treat by burping or removing the dressing or by



Tactical Field Care Guidelines

3. Breathing

c. Casualties with moderate/severe TBI should be given supplemental oxygen when available to maintain an oxygen saturation $> 90\%$.

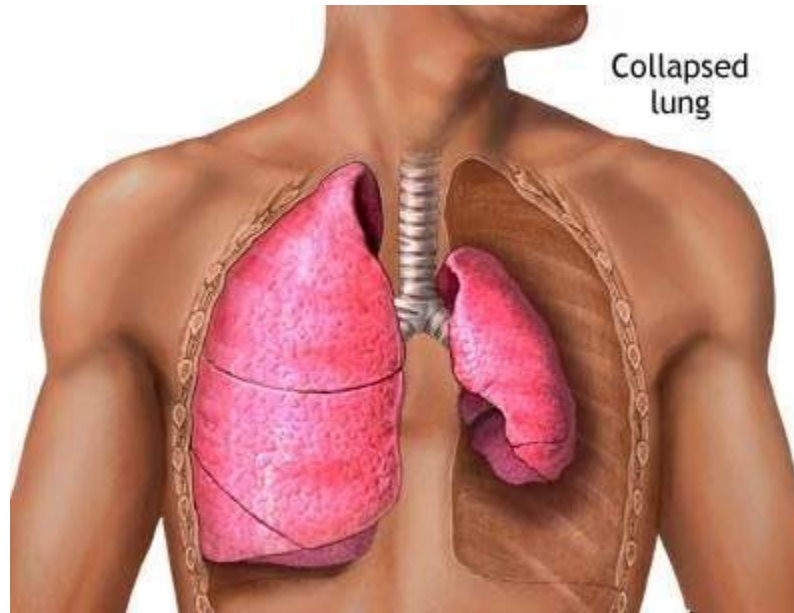


Tension Pneumothorax

- **Tension pneumothorax is another common cause of preventable death encountered on the battlefield.**
- **Easy to treat.**
- Tension pneumo may occur with entry wounds in abdomen, shoulder, or neck.
- Blunt (motor vehicle accident) or penetrating trauma (CSW) may



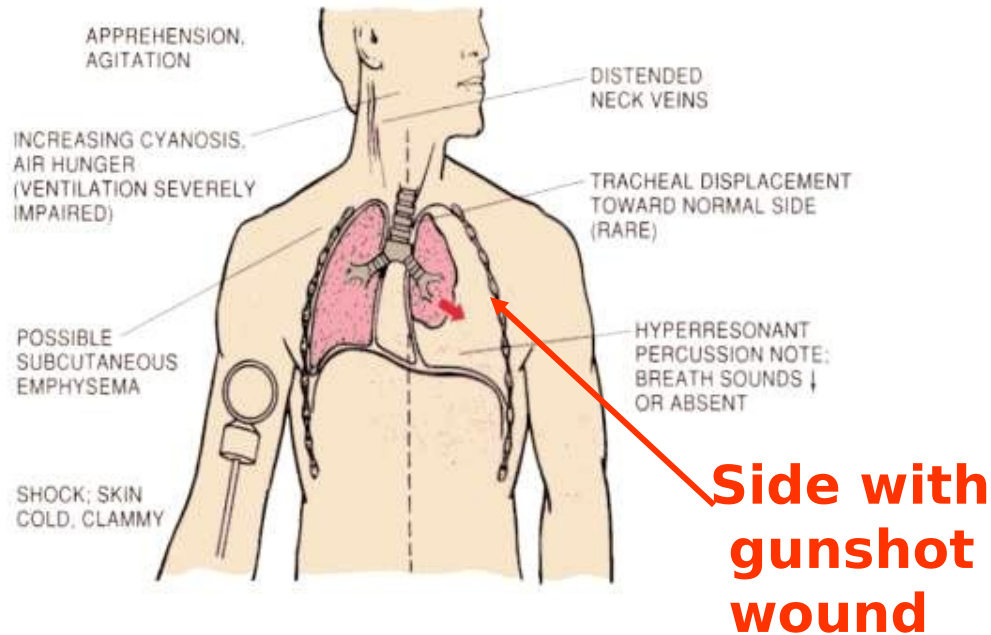
Pneumothorax



A pneumothorax is a collection of air between the lung and chest wall due to an injury to the chest and/or lung. The lung then collapses as shown.



Tension Pneumothorax



A tension pneumothorax is worse. Injured lung tissue acts as a one-way valve, trapping more and more air between the lung and the chest wall.



Tension Pneumothorax

- **Both lung function and heart function are impaired with a tension pneumothorax, causing respiratory distress and shock.**
- Treatment is to let the trapped air under pressure escape.
- Done by inserting a needle into the chest.



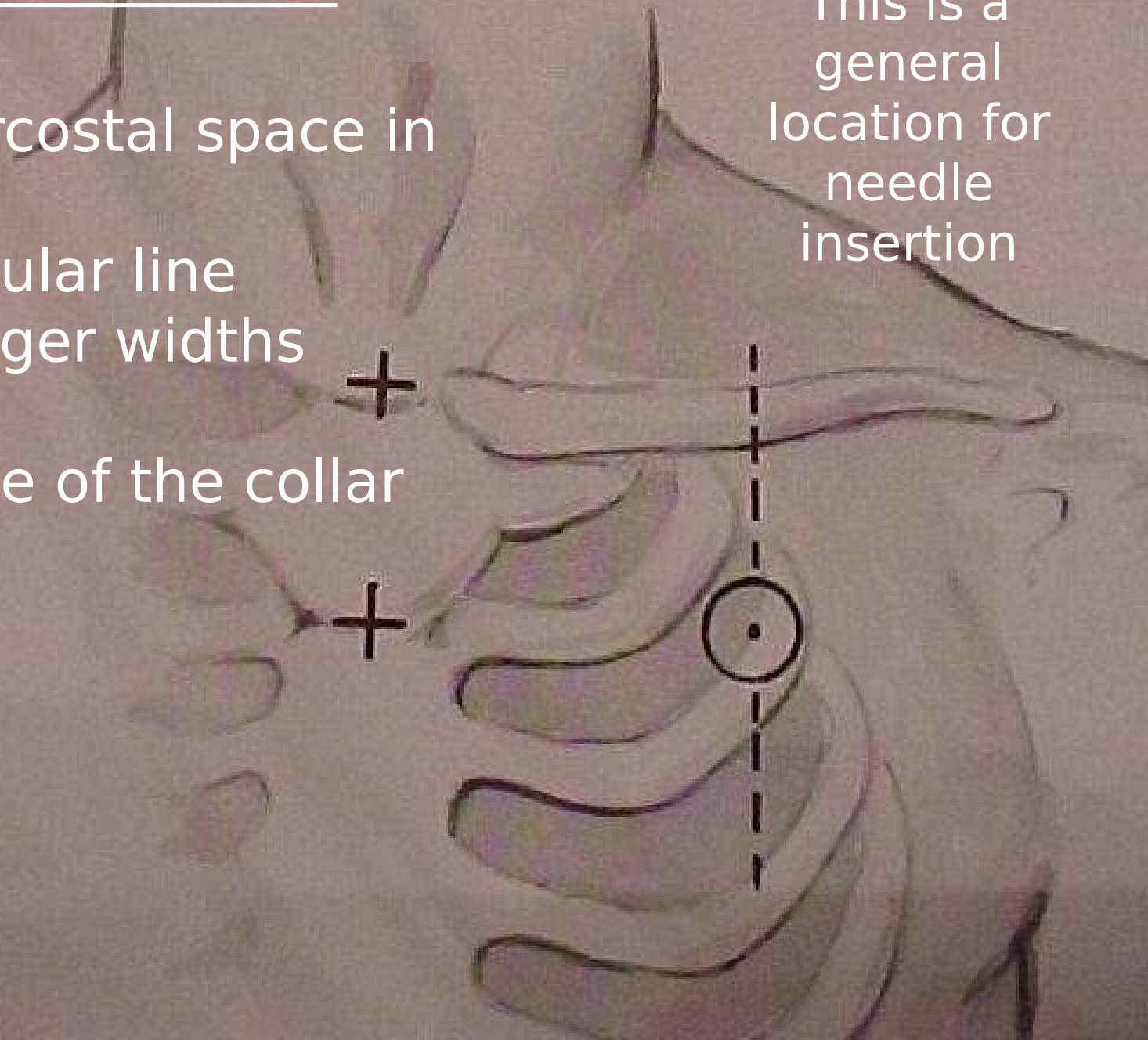
Tension Pneumothorax

- Question: “What if the casualty does not have a tension pneumothorax when you do your needle decompression?”
- Answer:
 - If he has penetrating trauma to that side of the chest, there is already a collapsed lung and blood in the chest cavity.
 - The needle won’t make it worse if there is no tension pneumothorax.
 - If he DOES have a tension pneumothorax, you will save his life.

Location for Needle Entry

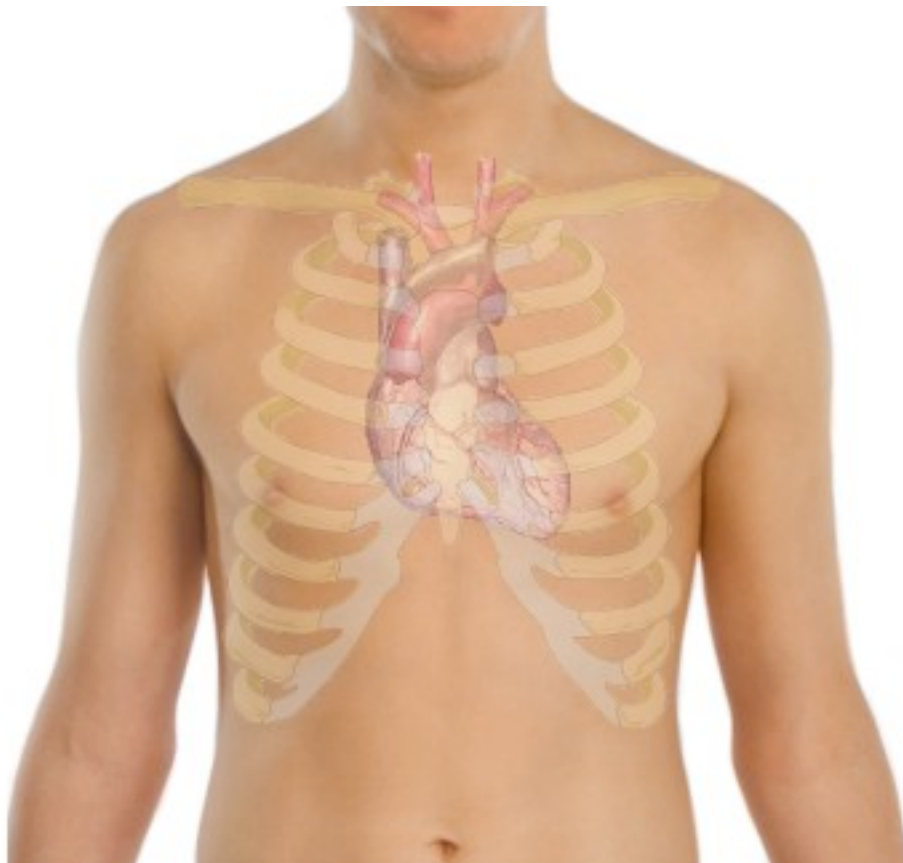
- 2nd intercostal space in the midclavicular line
- 2 to 3 finger widths below the middle of the collar bone

This is a general location for needle insertion





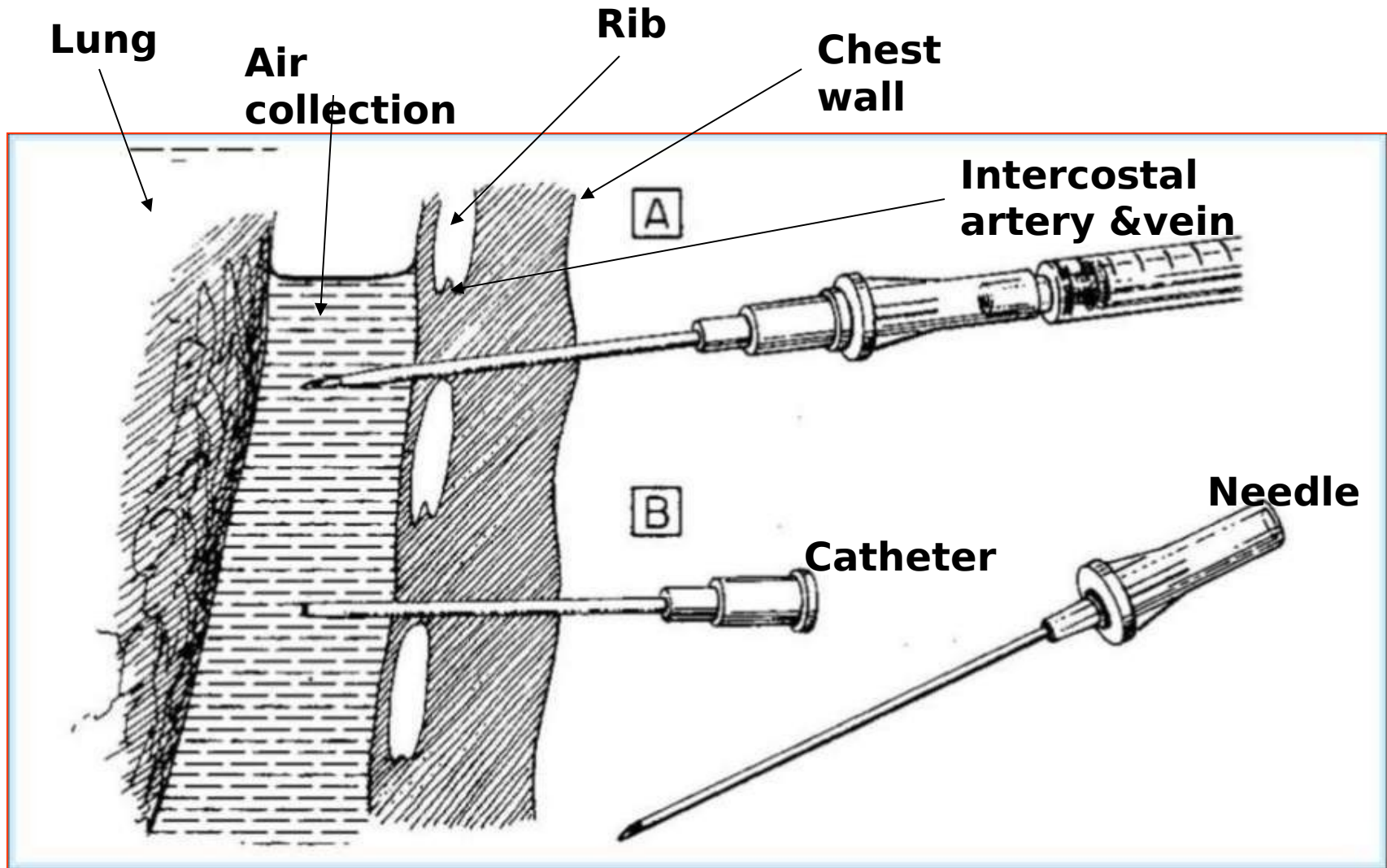
Warning!



- The heart and great vessels are nearby
- Do not insert needle medial to the nipple line or point it towards the heart.



Needle Decompression - Enter Over the Top of the Third Rib

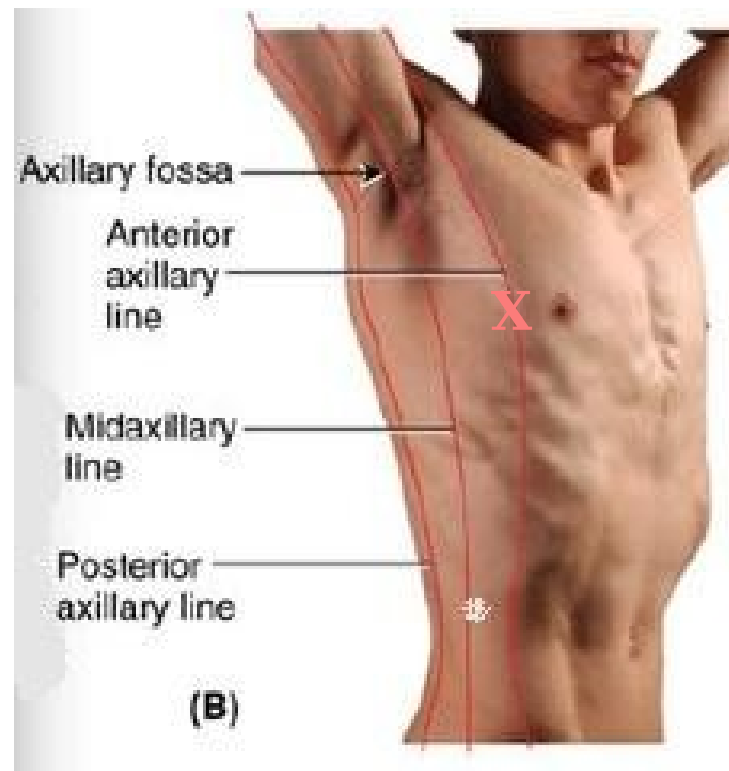


This avoids the artery and vein on the bottom of the second r



Alternate Site for Needle Decompression

- An acceptable alternate site is the 4th or 5th intercostal space at the anterior axillary line.
- The 5th intercostal space is located at the level of the nipple in young, fit males.
- The AAL is located at approximately the lateral aspect of the pectoralis major muscle.





Remember!!

!

- Tension pneumothorax is a common but easily treatable cause of preventable death on the battlefield.

- Diagnose aggressively!

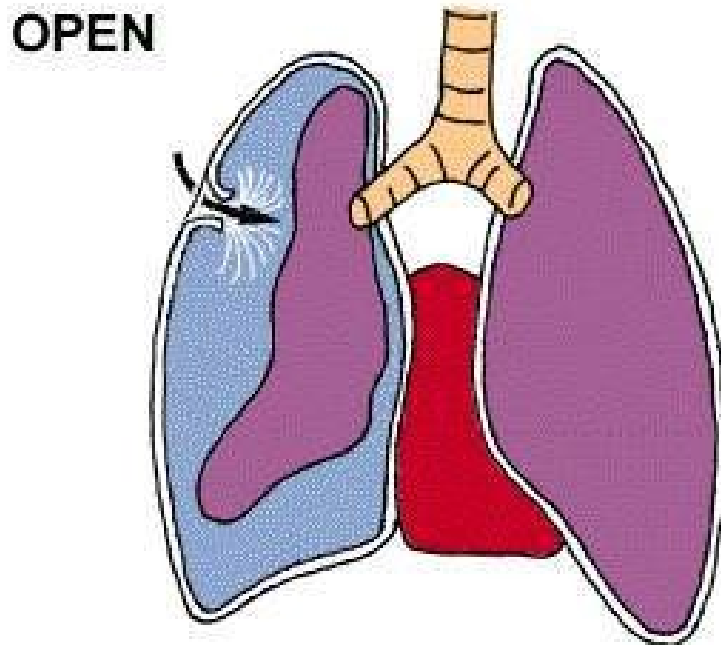




Needle Decompression Practical



Sucking Chest Wound (Open Pneumothorax)



Takes a hole in the chest the size of a nickel or bigger for this to occur.



Open Pneumothorax





Management of Open Pneumothorax

- Input from the USCENTCOM/JTS assessment of prehospital trauma care in Afghanistan questioned the use of unvented chest seals in the treatment of open pneumothorax.
- New animal research from both USAISR and Naval Medical Center Portsmouth has shown that vented chest seals work reliably to prevent a tension pneumothorax in the presence of an open pneumothorax and an ongoing air leak from the lung, but non-vented chest seals

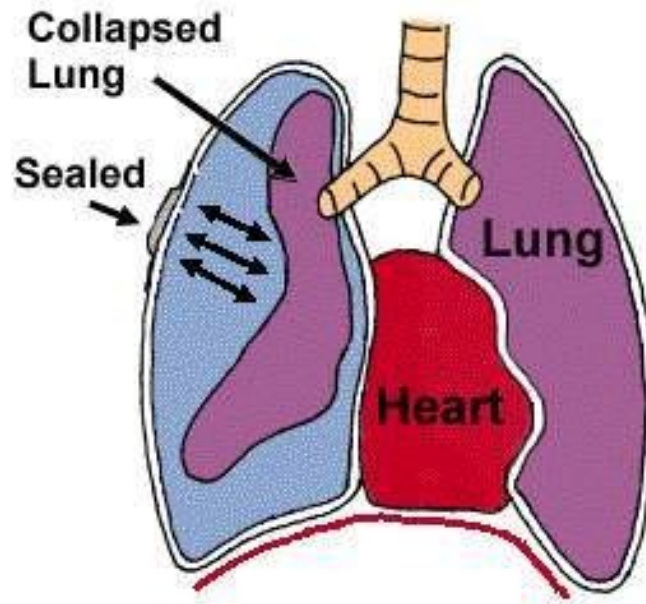


Sucking Chest Wound

- May result from large defects in the chest wall and may interfere with ventilation
- **Treat by applying a vented occlusive dressing completely over the defect during expiration.**
- Monitor for possible development of subsequent tension pneumothorax.
- Allow the casualty to adopt the sitting position if breathing is more comfortable.



Sucking Chest Wound (Treated)



Key Point: If signs of a tension pneumothorax develop
- lift one edge of the seal and allow the tension pneumothorax to decompress (“burping” the seal)



Video: Sucking Chest Wound





Video: Sucking Chest Wound (Treated)



Questions?





Tactical Field Care Guidelines

4. Bleeding

- a. Assess for unrecognized hemorrhage and control all sources of bleeding. If not already done, use a CoTCCC-recommended tourniquet to control life-threatening external hemorrhage that is anatomically amenable to tourniquet application or for any traumatic amputation. Apply directly to the skin 2-3 inches above wound.



Tactical Field Care Guidelines

4. Bleeding

- b. For compressible hemorrhage not amenable to tourniquet use or as an adjunct to tourniquet removal (if evacuation time is anticipated to be longer than two hours), use Combat Gauze as the CoTCCC hemostatic dressing of choice. Celox Gauze and ChitoGauze may also be used if Combat Gauze is not available. Hemostatic dressings should be applied with at least 3 minutes of direct pressure. Before releasing any tourniquet on a casualty who has been resuscitated for hemorrhagic shock, ensure a positive response to resuscitation efforts (i.e., a peripheral pulse normal in character and normal mentation if there is no traumatic brain injury (TBI)).



Tactical Field Care Guidelines

4. Bleeding

- b. (cont.) If the bleeding site is appropriate for use of a junctional tourniquet, immediately apply a CoTCCC-recommended junctional tourniquet. Do not delay in the application of the junctional tourniquet once it is ready for use. Apply hemostatic dressings with direct pressure if a junctional tourniquet is not available or while the junctional tourniquet is being readied for use.



Tactical Field Care Guidelines

4. Bleeding

- c. Reassess prior tourniquet application. Expose wound and determine if tourniquet is needed. If so, replace tourniquet over uniform with another applied directly to skin 2-3 inches above wound. If tourniquet is not needed, use other techniques to control bleeding.



Tactical Field Care Guidelines

4. Bleeding

d. When time and the tactical situation permit, a distal pulse check should be accomplished. If a distal pulse is still present, consider additional tightening of the tourniquet or the use of a second tourniquet, side-by-side and proximal to the first, to eliminate the distal pulse



Tactical Field Care Guidelines

4. Bleeding

- e. Expose and clearly mark all tourniquet sites with the time of tourniquet application. Use an indelible marker.



Tourniquets: Points to Remember

- **Damage to the arm or leg is rare if the tourniquet is left on for less than two hours.**
- Tourniquets are often left in place for several hours during surgical procedures.
- In the face of massive extremity hemorrhage, it is better to accept the small risk of damage to the limb than to have a casualty bleed to



Tourniquets: Points to Remember

- All unit members should have a CoTCCC-approved tourniquet at a standard location on their battle gear.
 - **Should be easily accessible if wounded - DO NOT bury it at the bottom of your pack**
- Tourniquets should be left in their protective packaging until needed to treat casualties.
 - Harsh environments may contribute to tourniquet failure if not left in packaging



Tourniquets: Points to Remember

- Training tourniquets should never be used as mission tourniquets
- Repetitive applications may cause tourniquet failure



Tourniquets: Points to Remember

- When a tourniquet has been applied, **DO NOT** periodically loosen it to allow circulation to return to the limb.
 - Causes unacceptable additional blood loss
 - It HAS been happening, and caused at least one near fatality in 2005



Tourniquets: Points to Remember

Tightening the tourniquet enough to eliminate the distal pulse will help to ensure that all bleeding is stopped, and that there will be no damage to the extremity from blood entering the circulation, but not being able to get out.





Removing the Tourniquet

Do not remove the tourniquet if:

- The extremity distal to the tourniquet has been traumatically amputated.
- The casualty is in shock.
- The tourniquet has been on for more than 6 hours.
- The casualty will arrive at a medical treatment facility within 2 hours after time of application.
- Tactical or medical considerations make transition to other hemorrhage control methods inadvisable.

Note: If the casualty will be delayed



Removing the Tourniquet

- Consider removing the tourniquet if bleeding can be controlled by other methods.
- Only a combat medic/corpsman/PJ, a PA, or a physician should loosen tourniquets.





Removing the Tourniquet

- Loosen the tourniquet slowly.
 - Observe for bleeding.
- Apply Combat Gauze to the wound per instructions later in the presentation if wound is still bleeding.
- If bleeding remains controlled, cover the Combat Gauze with a pressure dressing.
 - Leave loose tourniquet in place.
- If bleeding is not controlled without the tourniquet, re-tighten it.



CoTCCC-recommended Hemostatic Agents





CoTCCC-Recommended Hemostatic Agents



Combat Gauze
ChitoGauze



Celox Gauze





Combat Gauze

- Tested in the ISR safety model
- Widely fielded in the DoD
- Case series from the battlefield and the civilian sector:
 - CG is effective at stopping bleeding
 - No safety issues reported
- Recommended by CoTCCC





Alternative Hemostatic Agents

- Celox Gauze
- ChitoGauze
 - May be used if Combat Gauze is not available
 - Active ingredient is chitosan, a mucoadhesive
 - Function is independent of coagulation cascade
 - There are case series that report that chitosan dressings have stopped bleeding in surgical patients with life-threatening bleeding and severe coagulopathy
 - Does not cause reactions in persons allergic to shellfish



Alternative Hemostatic Agents

- Celox Gauze and ChitoGauze are as effective as Combat Gauze at hemorrhage control in laboratory studies:
 - Rall JM, Cox JM, Songer AG, et al. Comparison of novel hemostatic gauzes to QuikClot Combat Gauze in a standardized swine model of uncontrolled hemorrhage. J Trauma Acute Care Surg. 2013; 75(2 Suppl 2):S150-6.
 - Satterly S, Nelson D, Zwintscher N, et al. Hemostasis in a noncompressible hemorrhage model: An end-user evaluation of hemostatic agents in a proximal arterial injury. J Surg Educ. 2013;70(2):206-11.
 - Watters JM, Van PY, Hamilton GJ, et al. Advanced hemostatic dressings are not superior to gauze for care under fire scenarios. J Trauma 2011;70:1413-18.
 - Schwartz RB, Reynolds BZ, Shiver SA, et al. Comparison of two packable hemostatic Gauze dressings in a porcine hemorrhage model. Prehosp Emerg Care 2011;15:477-482



Alternative Hemostatic Agents

- Neither ChitoGauze nor Celox Gauze have been tested in the USAISR safety model, but
- Chitosan-based hemostatic dressings have been used in combat since 2004 with no safety issues reported.



CoTCCC-Recommended Hemostatic Agents

- For more information:
 - Combat Gauze
 - <http://www.z-medica.com/military/Home.aspx>
 - Celox Gauze
 - <http://www.celoxmedical.com/usa/products/celox-gauze/>
 - ChitoGauze
 - <http://www.hemcon.com/Products/ChitoGauzeHemostaticGauzeOverview.aspx>



Combat Gauze

NSN 6510-01-562-3325

- Combat Gauze is a 3-inch x 4-yard roll of sterile gauze impregnated with kaolin, a material that causes blood to clot.
- Found (in lab studies and actual use) to be safe and effective in controlling bleeding that would otherwise be fatal.





(1) **Expose Wound & Identify Bleeding**

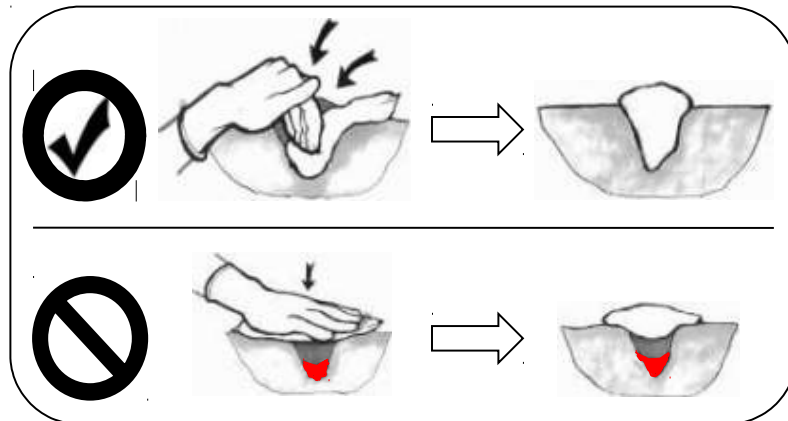
- Open clothing around the wound.
- If possible, remove excess pooled blood from the wound while preserving any clots already formed in the wound.
- Locate the source of the most active bleeding.





Combat Gauze Directions (2) Pack Wound Completely

- Pack Combat Gauze tightly into wound and directly onto the source of bleeding.
- More than one gauze may be required to stem blood flow.
- Combat Gauze may be re-packed or adjusted in the wound to ensure proper placement.





Combat Gauze Directions (3)

Apply Direct Pressure

- Quickly apply pressure until bleeding stops.
- Hold continuous pressure for 3 minutes.
- Reassess to ensure bleeding is controlled.
- Combat Gauze may be repacked or a second gauze used if initial application fails to provide hemostasis.





(4)

Bandage over Combat Gauze

- Leave Combat Gauze in place.
- Wrap to effectively secure the dressing in the wound.



Although the Emergency Trauma Bandage is shown in this picture, the wound may be secured with any compression bandage, Ace wrap, roller gauze, or cravat.



Combat Casualty Directions

(5)

Transport & Monitor Casualty

- Do not remove the bandage or Combat Gauze.
- Transport casualty to next level of medical care as soon as possible.





Combat Gauze Video

Access Z-Medica's training module at:

<http://www.z-medica.com/Training/TrainingLinks.asp>



Questions?



Direct Pressure

- Can be used as a temporary measure.
- It works most of the time for external bleeding.
- It can stop even carotid and femoral bleeding.
- Bleeding control requires very firm pressure.
- **Don't let up pressure to check the wound until you are prepared to control bleeding with a hemostatic agent or a tourniquet!**
- **Use for 3 full minutes after applying a hemostatic dressing.**
- It is hard to use direct pressure alone to maintain control of big bleeders while moving the casualty.



Hemostatic Dressing Practical





Junctional Hemorrhage

- Term is used to include:
 - Groin
 - Buttocks
 - Perineum
 - Axilla
 - Base of neck



Junctional Tourniquets

**Why have these devices
only recently been
added to TCCC?**

**This war has been going
on for 13 years.**



Dr. John Holcomb Brief to Defense Health Board 2011 Increasing Amputation Rates

Sen Dec 2010





Amputation Summary

Dr. John Holcomb

- **Amputation rates for evacuated Marines have**

increased from 6 to 18% over the last 10 months (a

200% increase over baseline.)

- **The rate in December 2010 was 38%.**

- **The double amputation rate increased by 3 fold in the**

last 4 months.

- **Increased genitalia injuries**

- **Most of the amputations are high proximal injuries**

that are extremely disabling.



IEDS

Iraq vs Afghanistan

- **Iraq**

- **Large amount of explosives - recycled 155 shells**
- **Command or vehicle-detonated**
- **Designed to destroy vehicles**

- **Afghanistan**

- **Smaller amount of explosives**
- **Homemade explosives**
- **Personnel pressure-detonated**
- **Designed to maim**



Dismounted Complex Blast Injury (DCBI)



DISMOUNTED COMPLEX BLAST INJURY

REPORT OF THE ARMY DISMOUNTED COMPLEX BLAST INJURY TASK FORCE



Prepared by the Dismounted Complex Blast Injury Task Force

For The Army Surgeon General

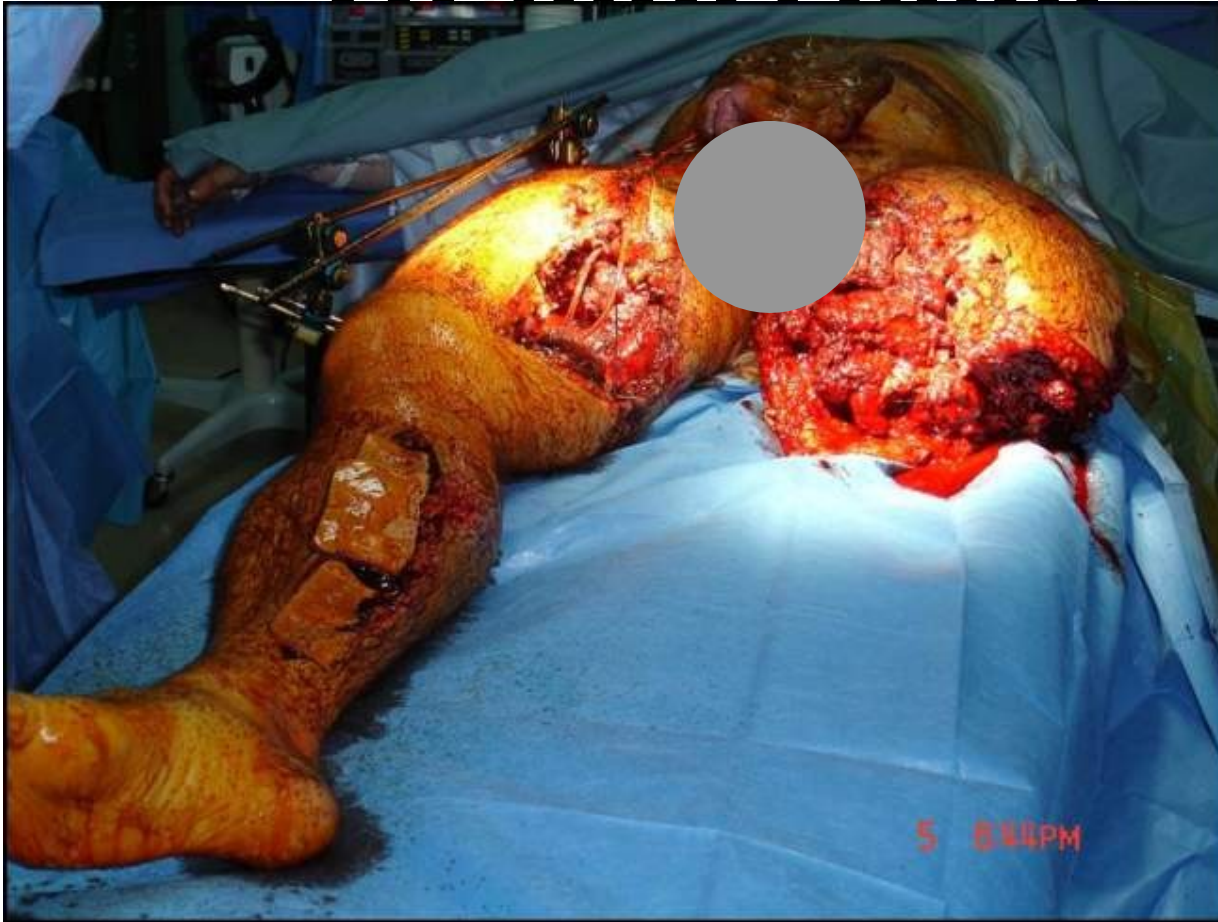
Fort Sam Houston, TX

18 June 2011

DCBI Task Force Report - BG Joseph Carvalho Chair



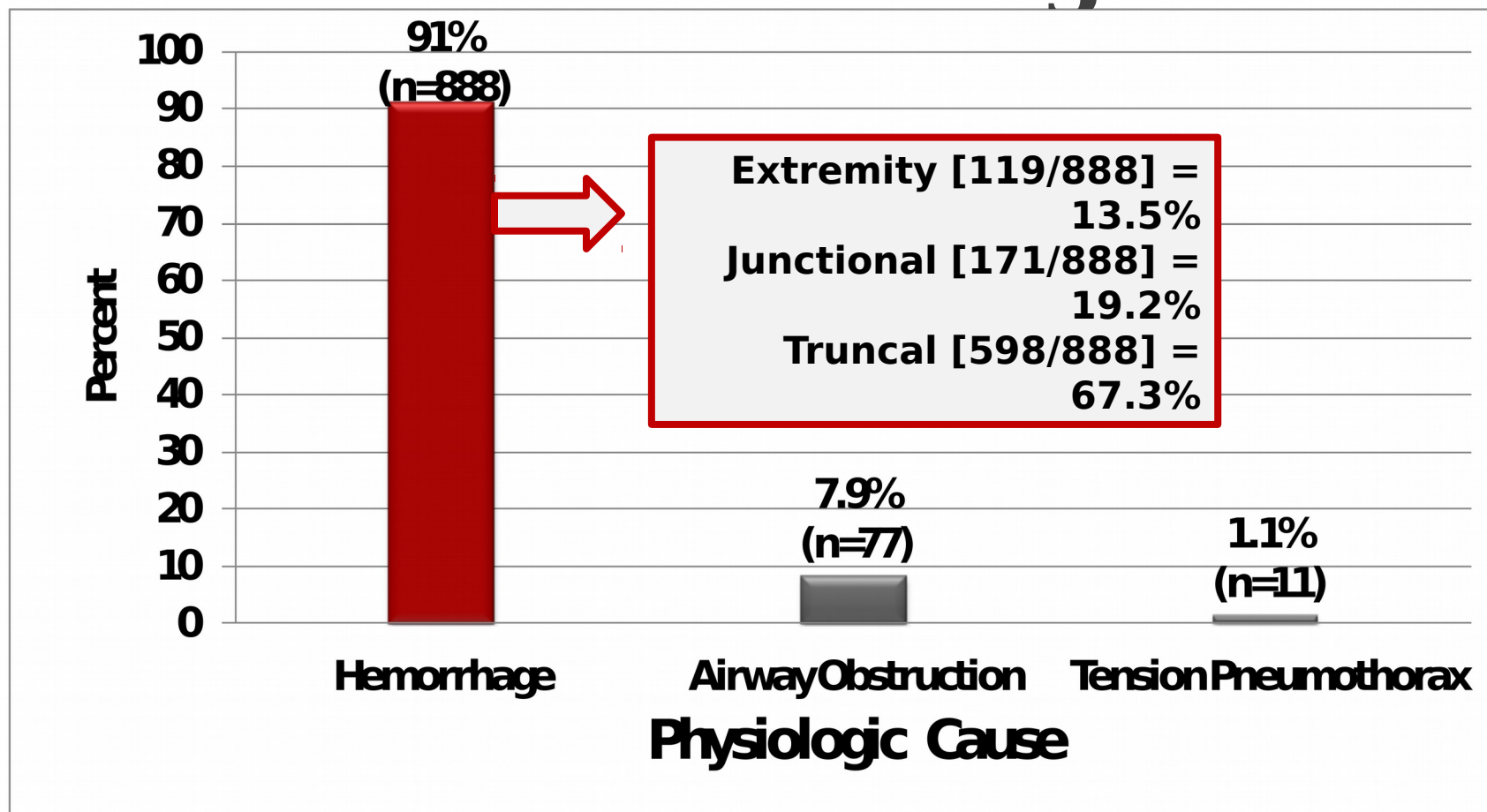
Wounds that May Result in Junctional Hemorrhage



Typically caused by dismounted IED attacks



U.S. Combat Fatalities: Death from Hemorrhage



Eastridge BJ, Mabry RL, Seguin PG, et al. Death on the battlefield (2001-2011): implications for the future of combat casualty care. *Journal of Trauma* 2012, 73(6) Suppl 5: 431-7.



Junctional Hemorrhage

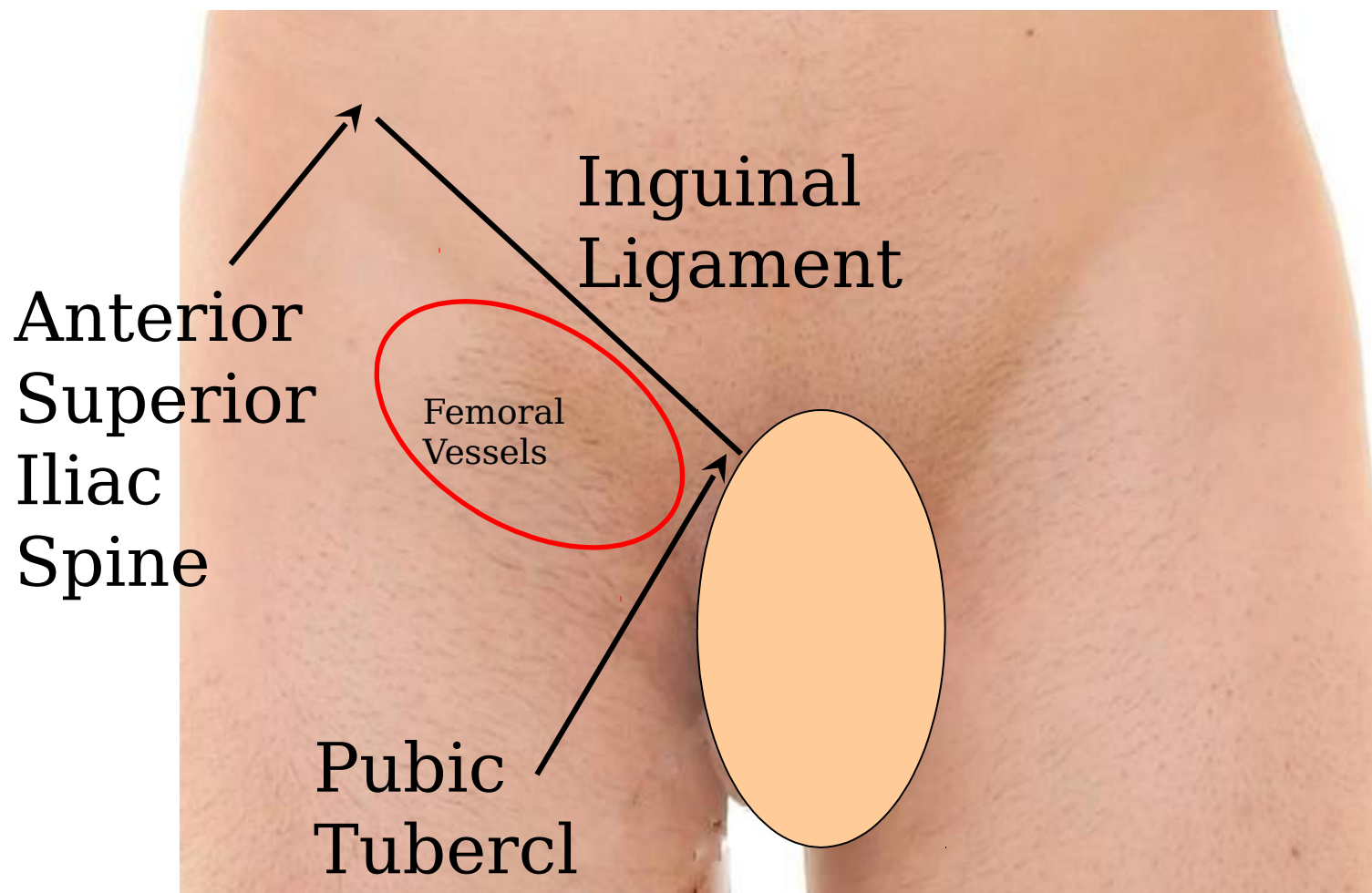
“Groin hemorrhage is the most common type of junctional bleeding where regular tourniquets cannot work.”

Kelly JF, et al.

J Trauma. 2008; 64(suppl 2)

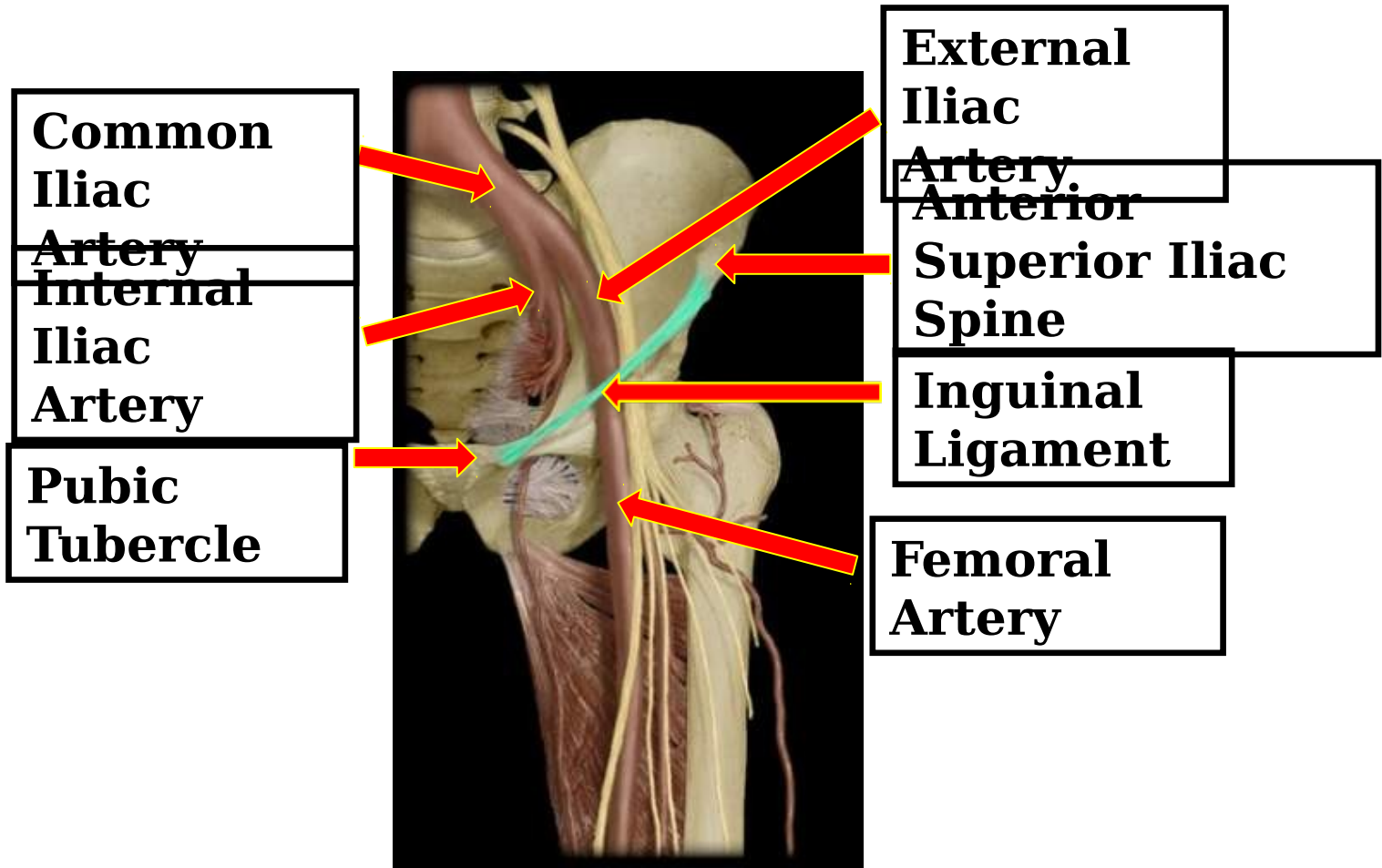


Superficial Anatomy of the Groin





Anatomy of the Inguinal Region



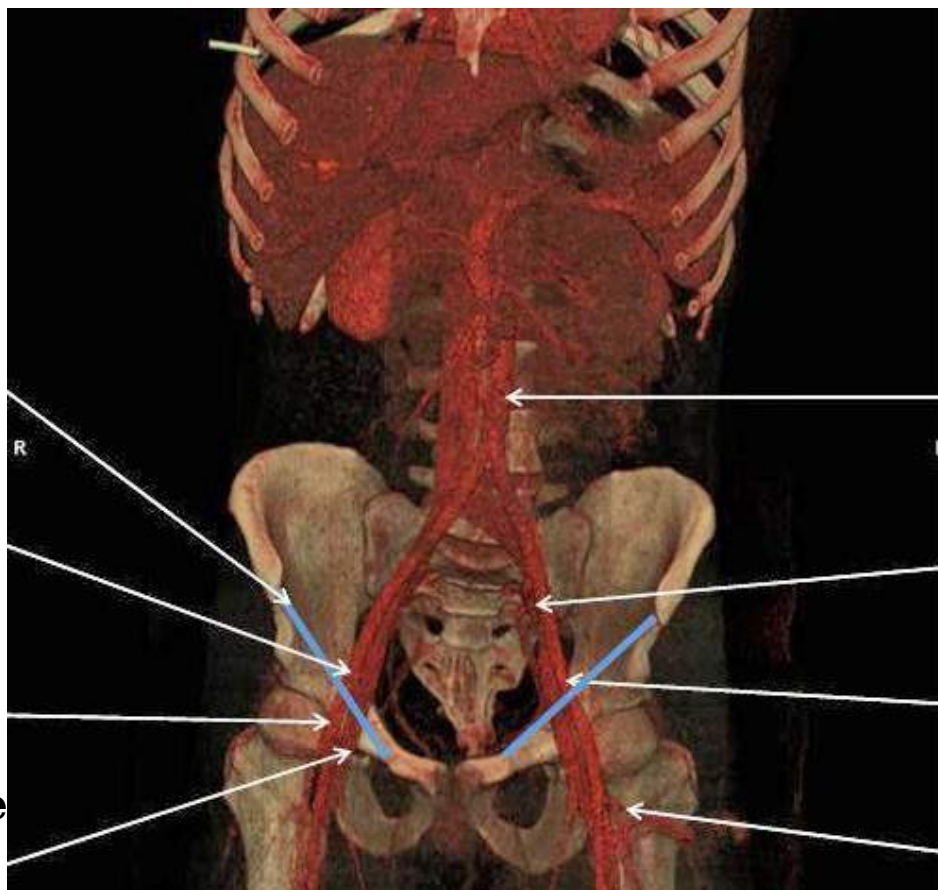


Vascular Anatomy of the Abdomen and Groin

Inguinal Ligament

Ext. iliac a. passing under inguinal lig.

**Common femoral a. passing into the leg
Common femoral vein passing into the leg**



Aorta posterior on the spine

**Int. iliac a. bifurcates from common iliac a.
Ext. iliac a. rising out of pelvis**

Bifurcation of common femoral a. into superficial femoral a. and femoral profunda a.

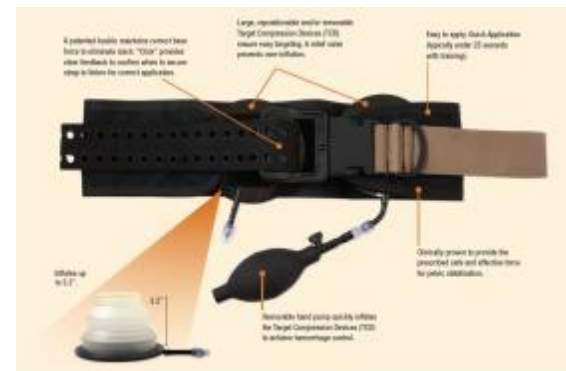


TCCC Management of Junctional Hemorrhage

- **The three CoTCCC-recommended junctional tourniquets are:**
 - **The Combat Ready Clamp (CRoC)**
 - **The Junctional Emergency Treatment Tool (JETT)**
 - **The SAM Junctional Tourniquet (SJT)**



TCCC Management of Junctional Hemorrhage



Combat Ready
Sam Junctional
Clamp
Tourniquet

Junctional Emergency
Treatment Tool

Training materials for all 3 devices are contained in separate modules of the TCCC curriculum



Abdominal Aortic Tourniquet

- The Abdominal Aortic Tourniquet (a truncal tourniquet) is another option for junctional hemorrhage control.
- It previously had a shorter maximum length of application (1 hour) than the 3 junctional tourniquets listed above. It was also relatively contraindicated in the presence of penetrating abdominal injury.
- These restrictions have now been removed in a new FFP clearance for the device.
- CoTCCC re-evaluation pending.





Continued Reassessment!

- Once applied, the junctional tourniquet, as well as the casualty's other hemorrhage control interventions, must be frequently reassessed to assure continued hemorrhage control.
 - **DO NOT EVER APPLY IT AND FORGET IT!**



Junctional Tourniquet Practical





Questions?